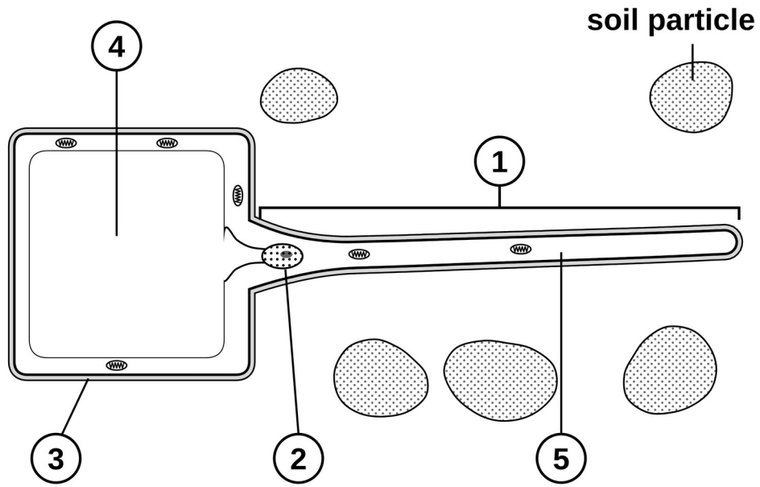
B1 L5 Mandatory worksheet: Specialised cells

Name: _____ Class: _____

A. The root hair cell

Help: online screens 2 and 3 [6]

The diagram shows a root hair cell in the soil.



(a) Name the parts labelled 1 to 5. [5]

1 _____ **4** _____

2 _____ **5** _____

3 _____

(b) Most leaf cells have chloroplasts. Root hair cells do not. Give the reason. [1]

_____

_____

B. Fill in the gaps

Help: online screens 1 and 10 [5]

Use words from the box. Use each word once. Two words are not needed.

differentiation	**early**	**late**	**mitosis**
plant	**repair**	**structure**	

1. A specialised cell has a _____ that suits it to one job.
2. Cells become specialised by a process called _____.
3. Most animal cells differentiate at an _____ stage.
4. Many _____ cells can differentiate throughout their lives.
5. In adult animals, cell division is mainly for _____ and replacement.

C. Which cell has this feature?

Help: online screens 3, 4 and 6 [6]

Tick (✓) one box in each row.

Feature	Sperm cell	Nerve cell	Muscle cell	Root hair cell
1. a long tail				
2. branched endings				
3. protein fibres that slide over each other				
4. a long, thin extension				
5. enzymes in its head				
6. a fatty sheath				

B1 L5 Mandatory worksheet: Specialised cells

Name: _____ Class: _____

D. Short answers

Help: online screens 1, 2, 6, 9 and 10 [8]

1. Give the meaning of the term “specialised cell”. [1]

_____

_____

2. Give one way the painting of a real root is different from the diagram of a root hair cell. [1]

_____

_____

3. Nerve cells have a fatty sheath. How does it help the nerve cell? [1]

_____

4. Xylem cell walls contain lignin. Give one job of the lignin. [1]

_____

5. Name the plant cells that carry dissolved sugars. [1]

_____

6. Phloem cells have pores in their end walls. What moves through the pores? [1]

_____

7. What is cell division mainly used for in adult animals? [1]

_____

8. Are xylem cells living or dead when they carry water? [1]

_____

E. Calculate

Help: online screens 4 and 7 [3]

A student draws a sperm cell 75 mm long. The real sperm cell is 50 µm long. Calculate the magnification of the drawing. Use: magnification = size of image ÷ size of real object, and 1 mm = 1000 µm. Show your working. [3]

Magnification = × _____

F. Explain

Help: online screen 4 [4]

A sperm cell’s job is to reach an egg cell and fertilise it. Explain how a sperm cell is adapted to do this job. [4]

_____

_____

_____

_____

_____

_____